THE CLAIMS:

1. (Original) A packet-based wireless communication system for communicating with a mobile node, comprising:

a virtual private network having a security gateway and a home agent, wherein said mobile node is connected to a foreign network and information packets are transmitted to the mobile node from the virtual private network, and wherein said security gateway on the virtual private network is connected to said home agent; and

a correspondence node coupled to said home agent on the virtual private network, wherein an information packet transmitted from the correspondence node is encapsulated by the home agent before forwarding to the security gateway for forwarding to the mobile node.

2. (Original) The packet-based wireless communication system for communicating with a mobile node of Claim 1 wherein the security gateway encrypts the information packet.

3. (Original) The packet-based wireless communication system for communicating with a mobile node of Claim 1 wherein the security gateway further encapsulates the information packet.

4. (Original)   The packet-based wireless communication system for communicating with a mobile node of Claim 1 wherein the communication system does not use an external home agent for forwarding the information packet to the mobile node.

5. (Original)   The packet-based wireless communication system for communicating with a mobile node of Claim 1 wherein the information packet includes an address for the security gateway.

6. (Original)   The packet-based wireless communication system for communicating with a mobile node of Claim 1 wherein the information packet includes a virtual private network tunnel inner address.

7. (Original)   The packet-based wireless communication system for communicating with a mobile node of Claim 1 wherein the security gateway transmits the information packet to the home agent to forward outside the virtual private network to the mobile node.

8. (Currently Amended) [[An]] A wireless communication system utilizing an information packet transmitted [[on]] in a packet-based communication [[system]], comprising:

a foreign network coupled to a mobile node associated with a virtual private network and having a public home address [[for a mobile node associated with a virtual private network, said mobile node coupled to a foreign network]];

a virtual private network gateway receiving information packets entering and leaving the virtual private network, with a virtual private network tunnel inner address used for routing packets to [[a]] the virtual private network gateway transmitted from nodes within the virtual private network[[;]] and a virtual private network gateway address used to route packets transmitted to the virtual private network gateway from [[locations]] nodes outside the virtual private network; [[and]]

the mobile node location on the foreign network is designated by a care-of address [[designating a location for said mobile node on the foreign network]]; and

the addresses sufficient for tunneling information packets into, outside, and within a virtual private network to and from the associated mobile node using a single home agent.

9. (Currently Amended) The <u>wireless communication system utilizing an</u>

information packet <u>transmitted</u> [[for]] <u>in</u> a packet-based communication

[[system]] of Claim 8, wherein the information packet is forwarded

outside the virtual private network from the virtual private network

gateway using the care-of address for the mobile node.

10. (Currently Amended) The <u>wireless communication system utilizing an</u>

information packet <u>transmitted</u> [[for]] <u>in</u> a packet-based communication

[[system]] of Claim 8, wherein the information packet is forwarded

outside the virtual private network from a home agent located on the

virtual private network using the care-of address for the mobile node.

11. (Currently Amended) The <u>wireless communication system utilizing an</u>

information packet <u>transmitted</u> [[for]] <u>in</u> a packet-based communication

[[system]] of Claim 8, wherein the virtual private network gateway

encrypts the information packet prior to transmission to the mobile node.

12. (Currently Amended) The <u>wireless communication system utilizing an</u>

information packet <u>transmitted</u> [[for]] <u>in</u> a packet-based communication

[[system]] of Claim 8, wherein the home agent appends the virtual private

network tunnel inner address to the information packet to route the packet

to the virtual private network gateway inside the virtual private network.

13. (Currently Amended) The <u>wireless communication system utilizing an</u> information packet <u>transmitted</u> [[for]] <u>in</u> a packet-based communication [[system]] of Claim 8, wherein the virtual private network gateway appends the care-of address prior to transmitting the information packet from the virtual private network.

14. (Currently Amended) The <u>wireless communication system utilizing an</u> information packet <u>transmitted</u> [[for]] <u>in</u> a packet-based communication [[system]] of Claim 8, wherein the home agent appends the care-of address prior to transmitting the information packet from the virtual private network.

15. (Currently Amended) The <u>wireless communication system utilizing an</u> information packet <u>transmitted</u> [[for]] <u>in</u> a packet-based communication [[system]] of Claim 8, wherein the virtual private network gateway appends the virtual private network gateway address for routing packets to the virtual private network gateway.

16. (Currently Amended) A method for packet-based communication to a mobile

node from a correspondence node on a virtual private network, comprising

the steps of:

provising a virtual private network associated with a mobile node

connected to a foreign network;

providing a security gateway located on the virtual private network

and connected to a home agent and a correspondence node [[on]] in the

virtual private network designated with a gateway address to route packets

from outside the virtual private network to the security gateway;

forming an information packet for transmission to the mobile node;

transmitting the information packet to the security gateway using a

tunnel inner address to route information packets within the virtual private

network to the security gateway;

encapsulating the information packet at the security gateway; and

forwarding the information packet to the mobile node without

using an external home agent.

17. (Original) The method for packet-based communication to a mobile node

from a correspondence node on a virtual private network of Claim 16,

further comprising the step of:

encrypting an encapsulated information packet at the security

gateway to forward to the mobile node.

18. (Currently Amended) The method for packet-based communication to a

mobile node from a correspondence node on a virtual private network of

Claim 16, further comprising the step of:

encapsulating the information packet at the home agent with [[an

address for the security gateway]] the tunnel inner address to use within

the virtual private network to route packets to the security gateway.

19. (Original) The method for packet-based communication to a mobile node

from a correspondence node on a virtual private network of Claim 16,

further comprising the step of:

transmitting the information packet out of the virtual private

network from the home agent.

20. (Original) The method for packet-based communication to a mobile node

from a correspondence node on a virtual private network of Claim 16,

further comprising the step of:

transmitting the information packet out of the virtual private

network from the security gateway.